



IN THE CLAIMS

Please amend the claims as shown below.

Claim 1 (Currently Amended): A plasma treatment apparatus comprising:

a vacuum vessel that houses an article to be plasma-treated in a plasma region;

a lower electrode that is provided inside said vacuum vessel and onto which is placed the article to be plasma-treated;

an upper electrode main body that is provided above said lower electrode to form the plasma region in said vacuum vessel, said upper electrode main body having formed therein an opening through which passes light for detecting an extent of progress of plasma treatment of the article to be treated in the plasma region;

an upper electrode cover that is joined to a lower surface of said upper electrode main body and faces the plasma region, said upper electrode cover having formed therein a hole at a location corresponding to the opening of said upper electrode main body; and

a transparent window member that is made of a transparent member which is a separate body to the upper electrode cover, has a shape insertable into the hole of said upper electrode cover, and is retainably and upwardly removably fitted in the hole of said upper electrode cover,

wherein said transparent window member is disposed to face the plasma region and has a part through which the light for detecting an extent of progress of plasma treatment passes, said transparent window member comprising a solid piece having no through hole in the part through which ~~light~~ gas passes.

Claim 2 (Currently Amended): An upper electrode cover for a plasma treatment apparatus, the plasma treatment apparatus comprising:

a vacuum vessel that houses an article to be plasma-treated in a plasma region;

a lower electrode that is provided inside said vacuum vessel and onto which is placed the article to be plasma treated;

an upper electrode main body that ~~forms~~ is provided above said lower electrode to form the plasma region in the vacuum vessel, the upper electrode main body having formed therein an opening through which passes light for detecting an extent of progress of plasma treatment of the article to be treated in the plasma region; and

a window member that is made of a transparent member which is a separate body to the upper electrode cover, has a shape insertable into a hole formed in the upper electrode cover, and is retainably and upwardly removably fitted in the hole of the upper electrode cover,

wherein the upper electrode cover is joined to a lower surface of the upper electrode main body and faces the plasma region; and

the hole of the upper electrode cover is formed in the upper electrode cover at a location corresponding to the opening of the upper electrode main body, the hole having a shape complementary to a shape of the window member,

wherein said transparent window member is disposed to face the plasma region and has a first part through which the light for detecting an extent of progress of plasma treatment passes, said transparent window member comprising a solid piece having no through hole ~~in the part~~ through which ~~light gas~~ passes.

Claim 3 (Previously Presented): An upper electrode cover as claimed in claim 2, wherein the hole has a lower portion having a reduced diameter and an upper portion having an increased diameter.

Claim 4 (Previously Presented): An upper electrode cover as claimed in claim 2, wherein the hole opens into the plasma region.

Claim 5 (Previously Presented): An upper electrode cover as claimed in claim 2, which is made of quartz.

Claim 6 (Currently Amended): An upper electrode cover window member for a plasma treatment apparatus, the plasma treatment apparatus comprising:

a vacuum vessel that houses an article to be plasma-treated in a plasma region;

a lower electrode that is provided inside said vacuum vessel and onto which is placed the article to be plasma-treated;

an upper electrode main body that is provided above said lower electrode to form the plasma region in the vacuum vessel, the upper electrode main body having formed therein an opening through which passes light for detecting an extent of progress of plasma treatment of the article to be treated in the plasma region; and

an upper electrode cover that is joined to a lower surface of the upper electrode main body and faces the plasma region, the upper electrode cover having formed therein a hole at a location corresponding to the opening of the upper electrode main body, wherein:

the window member comprises a transparent member which is a separate body to the upper electrode cover, has a shape insertable into a hole formed in the upper electrode cover, and is retainably and upwardly removably fitted in the hole of the upper electrode cover; window member has at least in part a shape complementary to a shape of the hole of the upper electrode cover, and

said transparent window member is disposed to face the plasma region and has a first part through which the light for detecting an extent of progress of plasma treatment passes, said transparent window member comprising a solid piece having no through hole ~~in the part~~ through which ~~light~~ gas passes.

Claim 7 (Previously Presented): An upper electrode cover window member as claimed in claim 6, wherein the hole of the upper electrode cover has a lower portion having a reduced diameter and an upper portion having an increased diameter, and the upper electrode cover window member has a lower portion having a reduced diameter and an upper portion having an increased diameter that can be fitted in the lower portion and upper portion of the hole, respectively.

Claim 8 (Previously Presented): An upper electrode cover window member as claimed in claim 6, wherein the hole has a lower portion having a reduced diameter and an upper portion having an increased diameter, and the upper electrode cover window member presents a vertically symmetrical shape having a lower portion having a reduced diameter, an intermediate portion having an increased diameter, and an upper portion having a reduced diameter that can be fitted in the lower portion of the hole, the upper portion of the hole, and the opening in the upper electrode main body, respectively.

Claim 9 (Original): An upper electrode cover window member as claimed in claim 6, which is made of quartz.

Claim 10 (Original): An upper electrode cover window member as claimed in claim 6, which is made of sapphire.

Claim 11 (Canceled).

Claim 12 (Previously Presented) A plasma treatment apparatus as claimed in claim 1, further comprising:

a tubular member that is provided in the vacuum vessel with a lower end thereof inserted in the opening of said upper electrode main body, said tubular member having formed therein an inner hole; and

a sensor that detects intensity of light for detecting the extent of progress of the plasma treatment of the article to be plasma-treated,

and wherein the light passes through the opening of said upper electrode main body, the inner hole of said tubular member, and said window member.

Claim 13 (Previously Presented): A plasma treatment apparatus as claimed in claim 12, wherein said sensor detects changes in intensity of light reflected by the article to be plasma-treated, the reflected light from the article to be plasma-treated passing through said window member, the inner hole of said tubular member, and the opening of said upper electrode main body.

Claim 14 (Previously Presented): A plasma treatment apparatus as claimed in claim 13, wherein said sensor emits light through the opening of said upper electrode main body, the inner hole of said tubular member, and said window member into said vacuum vessel.

Claim 15 (Previously Presented): A plasma treatment apparatus as claimed in claim 12, wherein said window member is in contact with a lower surface of said tubular member.

Claim 16 (Previously Presented): A plasma treatment apparatus as claimed in claim 1, wherein said window member is fixed to said upper electrode cover by sticking a tape from an upper surface of said upper electrode cover over an upper end surface of said window member.

Claim 17 (Previously Presented): A plasma treatment apparatus as claimed in claim 1, wherein the opening of said upper electrode main body has a shape different from the shape of the hole of said upper electrode cover.

Claim 18 (Previously Presented): A plasma treatment apparatus as claimed in claim 12, wherein the inner hole of said tubular member has a shape different from the shape of the hole of said upper electrode cover.